BUILDING A STRATEGIC PLAN TO IMPROVE INFORMATION TECHNOLOGY SKILLS

2nd Annual Clinger-Cohen Act IT Skills Report

A REPORT TO THE SECRETARY OF THE TREASURY

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EXECUTIVE SUMMARY

There is growing national recognition that there is a national IT skills shortage and that it could have an increasing impact on the performance of the nation's economy. It will also impact the performance of the federal government and the U.S. Department of the Treasury. To respond to this challenge, we must invest in improving and maintaining critical IT skills throughout our workforce.

Last year's report, "Responding to the Crisis in Information Technology Skills," provided the Department of the Treasury with a call to action by defining the scope and nature of the Department's Information Technology (IT) workforce challenge. The "Responding to the Crisis" report identified IT workforce trends that were incompatible with the Department's desire to employ the latest technology to meet its mission critical needs.

This report describes actions that the Department undertook in 1999 and proposes strategies for the future. In 1999, the Department CIO Office partnered with Department Human Resources (HR) leadership to:

> Participate in Governmentwide forums to urge needed reforms;
> Develop a Department-wide strategy for IT skills improvement;
> Issue guidance to bureau heads to increase their investment in IT staff development;
> Coordinate Department-wide IT skills recruitment and development initiatives; and
> Encourage bureau-specific initiatives to identify and meet IT skills needs.

These efforts have been undertaken through a combination of CIO policy and coordination activities and bureau-specific initiatives. Although much valuable and important progress has been achieved, action across the Department has been uneven and inconsistent.

An updated analysis demonstrates that trends toward increased IT workforce retirement eligibility identified in the "Responding to the Crisis" report continue. From October 1, 1997 to December 31, 1999, the Department hired 1,455 IT professionals and experienced a net increase of 400 IT professionals. Current Federal employees continued to be the primary recruitment source for IT jobs. IT professionals over age 50 accounted for 70% of the workforce growth. And, there was no improvement in the education level of IT professionals.

New and more aggressive actions must be taken to stem the tide of upcoming retirements and to attract talented IT employees with appropriate leadership and project management skills. Otherwise the Department will move toward a skills crisis in which a large portion of its IT workforce will retire and deprive the Department of its organizational and technical knowledge and experience base. Treasury's ability to innovate and provide top notch service is constrained by its ability to hire and retain talented IT professionals and IT leadership.

The Department's challenge is not unique. Many other federal agencies face this challenge across a broad range of occupations. However, the challenge is particularly acute in the IT area

because of the enormous changes that IT is driving in our economy and the particularly hot national market for IT skills. Additionally, for Treasury to remain a leader in service and productivity, there must be wide dispersion of IT skills throughout its entire IT and non-IT workforce. Responding effectively to these challenges will require a mix of governmentwide reform and Treasury-specific initiatives.

Treasury CIO and HR leadership have proposed governmentwide reform and have worked closely with the U.S. Office of Personnel Management and the Federal Chief Information Officers (CIO) Council to design new IT job structures and career paths. We will continue to work together to identify and remove any impediments to the recruitment, retention and development of a top notch IT workforce.

Over the coming year, we will be proposing specific actions that will allow the Department to attract and retain key IT talent and to improve the IT skills of all of its employees. Our proposals will include detailed plans to:

> Increase Bureau Budgets for IT Professional Staff Development
> Develop Specific and Measurable Objectives for the IT Skills Improvement Program
> Share Information about IT Skills Department-wide
> Build Improved Partnerships Between IT and Non-IT Executives
> Improve IT Management Skills
> Increase Use of Training Technology to Improve Workforce IT Skills
> Enhance Workforce Planning Capability and Improve Workforce Management Tools
> Increase Recruitment Outreach

The Department has been a leader among federal agencies in its efforts to address the IT skills challenge on both a governmentwide and an agency-wide basis. By focusing resources and management attention on the proposals outlined above, we can create the sort of sustainable and long-term program that is necessary to respond to the IT skills challenge.

CHAPTER 1 - THE NATIONAL IT WORKFORCE SHORTAGE

The competitive environment for IT skills remains hot and is especially challenging in the Washington, D.C., area where 58% of Treasury IT workers reside. This environment puts continuing pressure on the Department's efforts to recruit and retain critical IT staff. Congressional and Administration initiatives have drawn attention to this concern.

1.1 The National Picture

Highlights from recent studies by leading private sector IT research organizations and official U.S. sources demonstrate the scope of demand for IT professionals:

META Group Report – Summer 1999	– "There is now an acute shortage of software professionals in the U.S. ...Because information technology and business are so interwoven, the workforce shortage may act as a braking force on the economy." – Projected 20% wage increases for IT professionals vs. 4.1% for all U.S. workers; turnover rate of 15%.
International Data Corporation (IDC)	"There are no signs that the intense competition for IT staff will abate, making the 21st century a continuation of the late 1990s. By 2002, the number of openings for IT worker positions could represent a number greater than one-fourth of 1998's total IT workforce."
U.S. Department of Commerce: "The Digital Workforce: Building Infotech Skills at the Speed of Innovation"	– There is a demand for "...workers with unique combinations of IT skills, experience and industry knowledge..." This "niche" labor market creates unique market conditions that drive salaries higher. – The State of Virginia is projected to have the third largest number (behind only California and Texas) of IT workers in the nation by 2006. It will also have the third highest number of job openings.

The Bureau of Labor Statistics projects that the fastest growing U.S. occupations will be in IT:

Occupation	1998 Employment	2008 Employment (Proj)	Growth Rate
Computer Engineer	299,000	622,000	108%
Computer Support Specialist	429,000	869,000	103%
Systems Analyst	617,000	1,194,000	94%
Database Administrator	87,000	155,000	78%
Desktop Publishing Specialist	26,000	44,000	69%

1.2 Congressional Studies

The Congress has chartered two commissions to help it gain a better understanding of the scope of the national IT workforce shortage and its impact on the economy. They are:

Committee To Study Workforce Needs in Information Technology (http://www.itworkforce.org)	– National Science Foundation (NSF) led independent review – Chartered to review IT age discrimination charges and H-1B visa cap issues – Advising Congress on scope and duration of IT skills shortage – Study is to be delivered to Congress by October 1, 2000 – Department of the Treasury provided testimony on February 29, 2000, as part of a panel of federal agencies
Twenty-First Century Workforce Commission (http://www.workforce21.org)	– Created as part of the Workforce Investment Act of 1998 – Commissioner members appointed by the House, the Senate and the President – Commission scheduled to submit its recommendations to the President and Congress by May 16, 2000 – Federal CIO Council provided testimony on IT workforce issues

The Comptroller General of the United States, David Walker, has placed great emphasis on "Human Capital." This initiative dovetails well with the Department of the Treasury's program for improving the IT skills of its employees. In an article he authored for Federal Times ("High Performance Hinges on Developing Human Capital," Federal Times, November 8, 1999) he states:

> Of the three enablers needed to make performance management a reality, two of them – process and technology – already have been addressed by the new reforms [e.g., Chief Financial Officers Act, the Paperwork Reduction Act, the Clinger-Cohen Act and the Government Performance and Results Act]. The third and most crucial enabler – people – will sooner or later need to be addressed on a comprehensive basis and on a similar scale. A government that expects to move into the 21st century with top flight, performance-based management and technology systems will undoubtedly need to bring its human capital systems into line as well.

The General Accounting Office (GAO) report (GAO/GGD-99-179) entitled "Human Capital: A Self-Assessment Checklist for Agency Leaders" sums up the argument for Human Capital as follows: "...people are assets whose value can be enhanced through investment...(and) an organization's people largely determine its capacity to perform. Therefore the value of the organization is dependent on the value of its people." GAO proposes that agencies assess themselves against the criteria and measures identified in its report. The criteria identified by GAO are consistent with the analysis and strategy developed by the Department.

1.3 Administration Initiatives

The following 1999 Administration initiatives address components of the IT workforce challenge.

Information Systems Protection Initiative - Defending America's Cyberspace	– National Plan released January 7, 2000
	– Federal government initiatives proposed:
	  1) Office of Personnel Management study to define federal IT security position competencies and certification requirements;
	  2) development of "Centers of IT Excellence" to certify federal IT workers and to maintain their skills throughout their careers;
	  3) creation of a "School for Service" program to educate and recruit the next generation of IT managers by awarding scholarships in information security in return for federal service work commitments;
	  4) development and implementation of a Federal information security awareness curriculum throughout the Federal workforce.

Federal Use of Training Technology	– E.O.13111 (January 12, 1999) calls upon Federal agencies to use technology to improve the training opportunities for their employees – Proposals to standardize training software – Proposals for increased sharing of learning modules among agencies – IRS and BEP will be piloting the Individual Learning Account strategy to give employees more control in their development
New Markets Initiative	– Broad program aimed at increased private sector investment in disadvantaged U.S. communities – Encourages private sector investment in skill building for disadvantaged youths – President endorsed the efforts of Sanford Weill, Chairman of Citigroup and Chairman of the National Academy Foundation (NAF) for the establishment of IT academies within high schools – The Department has coordinated Federal CIO Council development input to NAF IT academy curricula – BEP's CIO and staff met with NAF to assist in curriculum development

1.4 Summary
The national crisis in IT skills is structural and long term.   The environment within which the Department recruits, retains and develops its IT talent is likely to remain highly competitive. Responding to this marketplace will require management focus and well-targeted and sustained efforts.

External interest in IT workforce challenges will increase during 2000. National IT skills improvement strategies are likely to be formulated and refined by Congress and the Administration. This should create a receptive environment for the Department's IT skills initiatives.
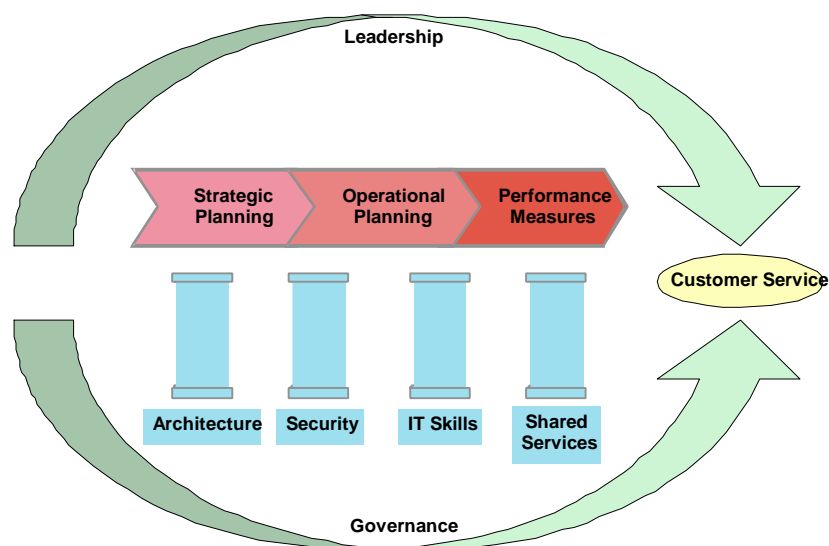
CHAPTER 2 - TREASURY IMPLEMENTATION STRATEGY

The Department of the Treasury's CIO Office and the Deputy Assistant Secretary for Human Resources (HR) have worked jointly to create a consensus strategy for building an IT workforce improvement program. This process began with the approval and endorsement of the "Responding to the Crisis" report.

2.1 Gaining Consensus on Report Recommendations

The "Responding to the Crisis" report contained seventeen recommendations, including the outline of a process for moving from proposal to action plan. The report was approved for release by the Treasury CIO Council on February 11, 1999. The report and recommendations were shared with the Department's HR Advisory Council on March 16, 1999. Through this process, Treasury's top IT and HR leadership made substantial input to the report so that its recommendations would be practical and would make a difference in the Department's day-to-day operations. A strong partnership was built.

2.2 Integrating the IT Skills Initiative into Department Plans

A major step forward for the IT Workforce Improvement Program was the decision by Treasury's CIO Council to include IT skills as one of the ten guiding principles that represent the foundation of the Department's IT strategic direction. The graphic below (taken from the IT Strategic Plan 2000-2003) illustrates these ten principles. The Council concurred that the Department CIO should issue guidelines for bureau IT training budgets and should establish mechanisms for coordination and interaction of the bureaus on IT skills. The Council also identified IT recruitment and retention as opportunities for coordinated efforts and recommended the development of overall assessment and evaluation strategies. The Secretary approved the IT Strategic Plan and transmitted it to Bureau Heads on November 17, 1999.

2.3 Developing an IT Workforce Improvement Plan

In cooperation with the Treasury CIO Council, the IT Workforce Improvement Program (ITWIP) office developed a comprehensive implementation strategy aimed at addressing the priorities in the report. The plan was built with the cooperation and leadership of Treasury's constituent bureaus and with the DASHR's office. It is provided as an appendix to this report.

The ITWIP effort was launched out of cycle with normal budget and planning efforts. It was undertaken in the midst of Year 2000 program initiatives and reorganization efforts within the CIO office. It did not get the funding or staffing commitment that was outlined in the ITWIP Implementation Plan. The CIO Office conducted this initiative without a staffing or budget increase in FY 2000. Nonetheless, significant progress has been made. Chapters 3 and 4 describe this progress.

2.4 Outreach and Recognition

In 1999, the Department received significant recognition for its innovations and its aggressive response to IT workforce challenges. This recognition included: 1) a Technology Leadership award from the Federal CIO Council at the annual FOSE Conference (3/17/99); 2) election to the Federal Computer Week "Fed 100" (6/15/99); and 3) recognition for leadership in promoting support mechanisms for IT training by the Industry Advisory Council and the Government Information Technology Services Board (10/4/99). In addition, interviews and newspaper articles noting the Department's strategies and achievements appeared in Federal Computer Week, Government Computer News, the Federal Times, Computerworld, the Chicago Tribune and the Washington Post.

In August, 1999, the IT Workforce Improvement Program established a "no frills" Webpage (http://www.treas.gov/itwip) on the main Treasury Department Website. This Webpage was a vehicle for making data about the program available. Over the first six months, there were 6,845 hits on this Webpage. Every "hit" does not represent a unique access to the Webpage. Nonetheless, this level of activity on a static page with few updates indicates a significant amount of media and peer interest in the IT workforce improvement initiatives of the Department.

Treasury is recognized as a leader among Federal agencies in its efforts to draw attention to the IT skills challenge and in its search for solutions and strategies to respond to this challenge. It has participated in public forums to enhance communication.   These forums are briefly outlined below:

National Aeronautics & Space Administration (NASA) IT Workforce Challenge Team, August 10, 1999 – At NASA's invitation, Department of the Treasury CIO officials met with NASA's IT workforce team and shared lessons learned.

U.S. Department of Commerce CIO Council, December 9, 1999 – At the request of the Commerce Department CIO Council, the ITWIP Program Manager presented findings from Treasury's "Responding to the Crisis" report and the Federal CIO Council IT Workforce Challenge effort.

IRMCO Panel, September 8, 1999 – The ITWIP Program Manager served as part of a governmentwide panel including the Federal CIO Council, the Commerce Department and the General Services Administration to share progress on IT workforce issues with a governmentwide community.

OPM Taste of Learning Conference, September 28, 1999 – The Department of the Treasury CIO Office (at OPM's invitation) addressed education and training professionals across the government on IT workforce challenges and strategies.

Information Management Forum, August 30, 1999 – The Department of the Treasury CIO Office shared its approach for developing organizational consensus for IT workforce reform in a setting which included private and public sector managers facing similar challenges.

CHAPTER 3 - GOVERNMENTWIDE INITIATIVES

Responding to the government's IT workforce challenges will require important systemic changes in federal personnel policy. Treasury actively encouraged and participated in governmentwide efforts to remove structural impediments in the personnel system that inhibit optimum IT personnel performance. These efforts are beginning to bear fruit.

3.1 Governmentwide Concerns

Paul C. Light, Douglas Dillon Senior Fellow at the Brookings Institution's Center for the Public Service conducted a survey of public administration graduates from Harvard University, Syracuse University and the University of Texas. He concluded that these graduates were half as likely to take government jobs out of college than were their predecessors twenty years ago. He concludes his analysis with a statement that is equally apropos of the situation for IT occupations:

> The federal government is on the cusp of a massive brain drain caused by the retirements of the baby-boom employees who entered 30-year careers in the 1960s and 1970s. Agencies must now compete for talent in the midst of a growing labor shortage with tools and career paths designed for a bygone era. The result is a human capital crisis that could weaken government performance from top to bottom. Unless Congress and the President act soon to start building a civil service relevant to a new generation of talent, the federal government will take a flying leap into an empty talent pool.

The federal IT community is attuned to IT staff recruitment and retention challenges. This is evidenced by two surveys of top IT executives this past year. Highlights are provided below:

Association for Federal Information Resources Management (AFFIRM) – Fourth Annual Top Ten Challenges Survey – December 1999	– AFFIRM surveyed 320 senior IT officials and managers at federal departments and agencies. –Number one ranked challenge was "Hiring and Retaining Skilled Professionals."
Information Technology Association of America (ITAA) Survey of Federal CIOs – January 2000	– ITAA and Grant Thornton LLP interviewed 34 CIOs representing 31 agencies – IT workforce issues were identified as one of the eight most pressing issues – Report notes that "...the IT Workforce issue has zoomed onto the high priority list." – "CIOs report increasing difficulty with recruiting qualified staff. Federal salaries are seen as becoming less competitive with each passing year."

3.2 Progress on Governmentwide Initiatives

As a result of the February 1999 "Responding to the Crisis" report, the Deputy Assistant Secretary, Human Resources and the Deputy Assistant Secretary, Information Systems/CIO developed a joint strategy to communicate to the U.S. Office of Personnel Management (OPM) the need for governmentwide action. Since that time, the Department of the Treasury has been a regular participant in OPM initiatives with the DAS/HR playing a leading role in coordinating OPM's pilot effort to establish a new IT career series and a new competency-based qualification and classification system. An outline of the Department's recommendations and OPM's ongoing initiatives follows:

Recommendation	OPM Actions
1) Review the IT occupational series and reexamine the qualification, classification and compensation structures; and 2) Develop a governmentwide framework that can be used as a career planning tool for current IT employees and for those entering the field.	– On June 1, 1999, OPM notified agencies that it would undertake a study of IT occupations. – The oldest standard in the IT occupation at that time was eleven years old, far out of date with new methodologies and technologies used in IT. – On October 19, 1999, OPM concluded the first phase of its study and issued draft IT occupational job titles and new proposed qualification standards for the IT occupation. – The Department of the Treasury participated in occupational specialty focus groups and responded to technical and HR concerns – IRS and the Department CIO Office will participate in the OPM IT Occupation Pilot beginning in April 2000. – By basing the new IT occupation on competencies to perform jobs, OPM has addressed the career planning concerns of Treasury's recommendation.
3) Seek legislative and regulatory change to promote the formal education of IT employees and managers through appropriate degree and certification training.	– OPM has not yet addressed this recommendation, but it has noted that agencies can gain authority to pay for degree and certification training for positions that are formally identified as "shortage" positions.

Recommendation	OPM Actions (Cont'd)
4) Allow end-of-task and end-of-term retention bonuses.	– OPM's December 1999 study on recruitment, relocation and retention incentives validated the "Responding to the Crisis" report findings regarding private sector bonus practice. – OPM's report indicates that changes of this type are under consideration.
5) Repeal time-in-grade restrictions. Base advancement on performance and competency.	– OPM had not indicated that it would take this action. However, it has eliminated years of experience and degree requirement in its new IT occupation qualification standards. – A move to qualification standards based on competencies provides OPM with an opportunity to remove standards which are not based upon job performance.

Most Treasury bureaus have been involved in reviewing and responding to draft OPM proposals to review and update the IT occupational series. IRS, Customs, FMS and the Department CIO Office provided participants for OPM's occupational focus groups. In some cases, this effort has spawned meaningful partnerships between HR and IT functions in the bureaus.

The Department has also participated extensively in the Federal CIO Council IT Workforce Challenge effort to better understand the impact that the national shortage of IT workers is having on the Federal government. The table below outlines major activities undertaken in 1999.

Meeting the IT Workforce Challenge Report	– The Department arranged for speakers for the "Federal IT Workforce Challenge" conference at AFCEA's Virtual Government Conference on February 25, 1999. – IRS and Department CIO Office personnel participated in the Workforce Challenge decision-making forum held on April 5-6, 1999. – Department personnel reviewed and edited the "Meeting the Federal IT Workforce Challenge" report of the Federal CIO Council
Recognition Ceremony for IT Workforce Challenge 10/21/99	– The Department CIO Office planned and hosted a Federal CIO Council ceremony recognizing the governmentwide effort to bring the Federal IT workforce issues to light. – Representatives from across government were recognized. Treasury officials included personnel from Departmental CIO and HR offices, IRS and BPD

CHAPTER 4 - DEPARTMENT PROGRESS ON IT SKILLS IMPROVEMENT

The Department's IT Workforce Implementation Strategy has formed the basis for Department-wide and bureau-specific responses to the IT workforce challenge. As noted in Chapter 2, a significant number of Department-wide initiatives planned in the IT Workforce Implementation Strategy were postponed because the program was not fully funded. Nonetheless, progress is being made on a number of fronts and there is significant cooperation throughout the Department. This chapter describes the progress to date.

4.1 Improving Non-IT Workforce Skills

OBJECTIVE	DEPARTMENT ACTION	BUREAU ACTION
Promote non-IT executive development	– Two Treasury Executive Institute (TEI) seminars – IT for Non-IT Executives program piloted with IRS	– IT for Non-IT Pilot participation by IRS, Secret Service, Mint, FMS, Customs and Department CIO Office – BEP training programs offered to non-IT execs
Initiate studies on IT competencies of the non-IT workforce	Action not funded in FY 2000	– Desktop skills training of entire workforce by IRS, FMS, OCC, OTS, ATF and Department CIO Office

4.1.1 Treasury Executive Institute (TEI) Programs

Two TEI seminars were conducted in cooperation with the Department CIO Office and HR in 1999. Both were 100% subscribed and both received extremely positive feedback. The seminars drew a wide range of participants, including both IT and non-IT executives.

TEI Seminar Title	Featured Presenters	Description
Creating a Responsive IT Architecture – Aligning IT with the Business Strategy February 9, 1999	Larry DeBoever, The Meta Group and Edward McDonald, Chief Architect, Texaco and Woody Hall, CIO, U.S. Customs Service	Described the case for IT architecture linked to business objectives (Meta). Addressed challenges in maintaining architectural control in a decentralized organization (Texaco). Highlighted U.S. Customs IT architecture designs and achievements.

TEI Seminar Title	Featured Presenters	Description
Electronic Commerce -- The Adventure Ahead and the Opportunities Today June 6, 1999	Marc Andreesen, Chief Technology Officer America OnLine and Co-Founder of Netscape and Martin Wagner, Associate Administrator, Governmentwide Policy General Services Administration (GSA)	Provided an overview of trends in Internet access (AOL). Presentation was supplemented with a discussion of national strategies (GSA) and Department E-Commerce implementations, including: E-File (IRS); Internet currency sales (BEP); and electronic purchasing (DO Procurement).

4.1.2 IT for Non-IT Executives

The wide accessibility of the Internet produces new challenges and new opportunities for IT and non-IT executives to cooperate on mission delivery. As these applications enter core work processes, senior non-IT executives often have an inadequate understanding of the potential and limitations of the new technology. In the private sector, this has led to a renewed interest in executive education. According to Business Week (October 18, 1999, pp.76-94):

> The average company spent about $10 million on internal and external executive development in 1998. Overall, spending on U.S. corporate training and education for managers rose...17% from last year according to Training magazine...Wherever they send their execs, the companies surveyed by BUSINESS WEEK were consistent in naming the subjects they want them to learn – how to become a leader, how to act entrepreneurially, and, especially, how to deal with the Net.

For IT executives throughout the Department to exercise leadership that transforms their bureaus, they must become working partners with their business program counterparts. For this to happen, both groups must better understand the key role that technology can play in accomplishing Department missions. This process has begun through closer cooperation on important IT funding decisions through the Clinger-Cohen capital investment review boards; it can be facilitated and expanded with effective executive-oriented IT training programs.

Much of the success of IT projects throughout the Department will depend upon the degree to which non-IT executives are engaged in IT decision making. For them to feel comfortable and be productive in this decision making, they must be informed and interested. It is with this goal in mind that the Department CIO Office worked in close cooperation with the Internal Revenue Service and the Treasury Executive Institute to develop and pilot a seminar on IT for non-IT executives. IRS contracted with the Concours Group to build a program which could be used by IRS as part of its Executive Development Program (XD) and could also be modified and used by the Department to provide both non-IT executives and senior non-IT managers with an exposure to a mix of policy, strategy and hands-on IT experiences.

The pilot session for this program took place from November 15-19, 1999. It consisted of five days of lecture, case study and hands-on activity. It also offered an informal setting for open

discussion with IRS's CIO and deputy CIOs and senior managers of the Service. The specific competencies addressed in the seminar were based on the Federal CIO competencies for information management and Treasury's own work in evaluating and applying these competencies to its senior IT managers. Topics covered included: Mapping IT to Mission; Desktop Tools and the Internet; IT Capital Planning; Designing Balanced Measures; IT Sourcing and Delivery; Envisioning the Future of IT; and IRS-specific modules on resources, security, architecture and project strategies. There was broad participation in this program from throughout the Department. Participants included Secret Service (2 - including its CIO), Customs (2), FMS (2), Mint and the Department CIO Office (2).

The pilot was well-regarded by participants. The IRS leadership did an effective job of sharing its lessons learned from the massive IT projects it has undertaken. It was clear, however, that there needed to be some modifications between the way the program was piloted (for IRS's XD participants) and the way that it would be delivered to Department non-IT leadership. The program will be shortened (probably to three days), lecture time will be reduced, and there will be a greater emphasis on providing non-IT executives with a rudimentary understanding of the scope and variety of technologies that they can adapt to their mission objectives. With these adjustments, the program will be offered across the Department through TEI in CY 2000.

4.1.3 Bureau-Specific Initiatives

The Bureau of Engraving and Printing CIO has sponsored several IT training programs for its non-IT executives. These programs covered remote access, dial-up, and individualized PC training. BEP also offered an after hours office automation class to its non-IT executives. The BEP CIO organization also provided its non-IT executives with a bureau seminar on the Clinger-Cohen Act, capital planning, and the benefits of developing an IT Architecture. This was a reprise of a program which had originally been piloted and delivered at the Department level.

Although the Department postponed its assessment of IT skills for the non-IT workforce, some of the bureaus proceeded with significant training programs. IRS introduced the Microsoft Office Suite to the desktops of its entire workforce and provided training on these desktop tools to much of its workforce. OCC moved from a variety of technology products for the desktop to the Microsoft Office Suite in 1999 and provided training to its entire staff. FMS is featuring continued classroom training to introduce the Microsoft Office Suite, Lotus Notes Mail and Windows NT to its entire workforce. In CY2000, OTS is upgrading all desktops and laptops from MS Office 95 to MS Office 2000. Staff will receive training in the new features of Office 2000. Training plans include loading computer-based training courses and manuals on the hard drives of the new notebook computers before deploying them to OTS examiners in the field. Washington and regional IT staff will be trained to complete the upgrades and provide on-going technical support. ATF went through a similar program in 1998 when it implemented Seat Management. Finally, the Department CIO Office is also undertaking a move to Seat Management and is training the entire Departmental Offices staff on the Microsoft Office Suite.

4.2 Recruitment and Retention of IT Professionals

OBJECTIVE	DEPARTMENT ACTION	BUREAU ACTION
Continue workforce analysis	Updated statistical study on accessions and separations	Comprehensive staffing analysis by IRS; Management and key personnel inventory by OCC; Customs creates National Training Plan and IT curriculum plan
Establish recruitment channels for IT professionals	Designed entry-level IT Professionals program	Co-op programs at OCC, BEP and IRS; Presidential Management Interns hired at Customs and Mint
Increase Web use in recruiting	Action not funded in FY 2000	IRS uses Web recruitment on Internet home page and commercial pages; OCC establishes recruitment site and brochure
Adopt retention strategies	No Department-wide action proposed in FY 2000	ATF pilots new law enforcement authority provisions

4.2.1 Recruitment Statistical Update

It was clear from the research for last year's report to the Secretary that the Department was not making significant progress in recruiting talented IT professionals new to the workforce. The Department was recruiting only one in eight of its new IT hires from outside federal ranks. Treasury's "Responding to the Crisis" report used statistical data from accessions and separations from fiscal years 1993-1997 to assess how the workforce was changing. It concluded that age levels among IT professionals hired during the period were increasing while education levels were decreasing vis a vis the workers on board. It demonstrated that the Department had moved substantially toward status candidates as its primary recruiting source. Statistical data on accessions and separations from October 1, 1997 to December 31, 1999 show that despite net growth of the Department of the Treasury's IT workforce these trends are continuing:

The IT professional workforce in the Department grew by 6% (400 employees). This was more than double the rate of growth in Treasury's overall professional workforce during the same period and constituted 32% of the overall professional workforce growth for the Department.

Despite net growth, the average age of the IT workforce increased from 44.6 to 45.3 during the period, thus bringing the workforce closer and closer to retirement age. The net increase of IT professionals under age 30 was only 1. The total number of IT professionals under 40 decreased by 25. The number of IT professionals over age 50 increased by 281; and

accounted for 70% of the new growth of the Department's IT workforce.

The average educational level of the IT workforce stabilized during the period. The percentage of IT professionals entering the Department with bachelor degrees (36%) was approximately the same as those leaving the Department.

Only 23% of IT professionals came to the Department from outside the federal government. This was only a slightly higher percentage than had been the case in FY 1993-1997 period.

4.2.2 Department-wide IT Professionals Program

During FY 1999, the Department of the Treasury made substantial progress on the design of an IT Professionals Program which will serve as a vehicle to attract outstanding men and women to the Department. Recruiting for this program will target the top quartile of university graduates with experience in computer science or information systems. It will target graduates with a high potential for leadership and management.

Recognizing that the Department has not been competitive with this group, the program will offer participants advantages and opportunities not usually open to routine hires. Specifically: 1) entry positions will be at the GS-7 level and recruitment bonuses will be considered; 2) participants will have management and technical development support and will be able to control at least a portion of their development through individual learning accounts; 3) participants will have multiple developmental assignments and will work in multiple bureaus during their three year development program; and 4) participants will become part of a prestigious peer group which will provide support and networking opportunities throughout their careers. A number of bureaus are participating in the planning for the program and have committed to supporting participants. These bureaus include: IRS, Customs, BEP, ATF, Mint and the Department CIO Office. The first IT Professionals class will be recruited in 2000.

4.2.3 Bureau-Specific Recruitment Initiatives

IRS Staffing Analysis – In June 1999, IRS issued its own report on its IT workforce. Results correlated closely to those presented in the Department's "Responding to the Crisis" report. IRS found that it had nine times as many Computer Specialists (GS-334) over 55 years of age than under 30. It also found that this disparity was greater in that job series than in any other in the Information Systems organization in IRS. The report projected that 16% of IRS's IT workforce would retire by 2003, requiring approximately 600 hires per year to respond to retirement attrition alone.

Internet Recruiting – In the Spring of 1998, IRS established an "Employment" Icon on the "Digital Daily" Internet home page. In FY 1999, the IRS advertised 50 IT professional positions through this medium. IRS is also advertising on "Saludos," a website oriented to Hispanics with college degrees and on "Job Access," a website focused on the disabled.

The Office of the Comptroller of the Currency has recently established an OCC recruitment site on the Internet and has also completed a new agency recruitment brochure. OCC CIO staff developed the information technology recruitment flyers and IT portion of the recruitment site.

College Intern/Cooperative Education (Co-op)/Presidential Management Intern Initiatives –
OCC hired three management interns for information technology in 1999. BEP provided IT
developmental opportunities to students participating in a college intern program, a Hispanic
American intern program, and the Stay-in-School program. BEP hired one of the interns as a
regular full time employee after graduation. The Bureau of Public Debt sponsors a "Student
Career Experience Program." This is an alliance with five local colleges. In 1999, four students
with computer majors who had been hired through this program were converted to full-time
positions.

During FY 1999, IRS's Information Systems organization had 8 co-op students on-board. In
June 1999, one student was converted to a career conditional appointment at grade 7. At the end
of FY1999, a co-op left the program to participate in a private company sponsored program that
offered her a higher starting salary and full tuition payment to graduate school. IRS has acted to
replace graduating co-op's and currently has a total of eleven IT co-op's on board.

In August 1999, the first Presidential Management Intern for the Office of Chief Information
Officer in the U.S. Mint was brought aboard. Mint is providing inter-office rotations throughout
the Mint CIO organization as part of his development program. In September 1999 Customs
also hired a Presidential Management Intern into its IT program.

4.2.4 Bureau-Specific Retention Initiatives

Pay Demonstration Project for Scientific and Technical Personnel – Many features of the
existing pay and personnel management system established by Title 5, U.S. Code, impede the
Department's ability to recruit and retain highly qualified employees in scientific, technical, and
engineering positions. ATF is participating in a pay demonstration project aimed at improving
its capacity to recruit, develop, and retain high-caliber employees in these fields, to include IT
professionals. ATF received 400 of the 950 positions allotted to the Department of the Treasury,
Office of Enforcement, for the demonstration project. The ATF demonstration project includes a
pay-banding scheme and pay-for-performance incentives that will allow new employees to start
at higher salary levels, and high-performing employees to accelerate in pay faster than the OPM
General Schedule. ATF will be applying its pilot authorities to 84 existing IT professionals, and
to all new hires for next year. All eligible employees and their supervisors have been trained.
The conversion to the pay demonstration project was effective the pay period beginning January
16, 2000. ATF is contracting for a formal effectiveness evaluation.

4.3 Improved Near-Term Staff Support

OBJECTIVE	DEPARTMENT ACTION	BUREAU ACTION
Assess OCC's experience with short-term professional staff temporary hires and consider Department-wide expansion	Action not funded in FY 2000	Seat Management contracts undertaken by Departmental Offices, and ATF IRS and Customs consider increased use of contract support for IT skills

In 1999, the Departmental Offices joined ATF in relying on a commercial "Seat Management" contract to support its end user computer support and Help Desk operations. Customs has conducted a Total Cost of Ownership study and is reviewing the feasibility of utilizing the Seat Management approach. IRS continued to expand its use of its Prime Contract for Tax Systems Modernization and Customs investigated using a similar strategy for its modernization. Either from a strategic perspective or simply in an effort to get necessary IT skills in a competitive marketplace, it is likely that there will be increased Department contracting for support and technical assistance. There has been limited use of temporary hiring strategies outside of OCC, but there is interest in this and other approaches to filling staffing gaps.

4.4 IT Workforce Skills Development

OBJECTIVE	DEPARTMENT ACTION	BUREAU ACTION
Invest a minimum of 3% of IT payroll on IT staff development in each bureau	Guidance letter issued by Assistant Secretary for Management for FY 2001 budget planning	BEP, OCC and BPD exceed proposed levels in FY2000; Secret Service establishes IT skills as top FY 2000 IT priority; Customs increased development investment two consecutive years (FY 99-00)
Establish baseline assessment of IT skills	Directed and coordinated Department-wide input to OPM IT occupation study defining IT competency needs	IRS baseline assessment of 7,000 IT employees (78% of Department IT workforce) OCC plans skill survey ; Customs establishes IT Training Plan

OBJECTIVE	DEPARTMENT ACTION	BUREAU ACTION
Expand distance learning initiatives to serve employees Department-wide	Pilot planned for Spring 2000	IRS renegotiates all Web/Computer Based Training for Department-wide use; FLETC cuts costs by using IRS distance learning courses; Customs and Mint establish distance learning teams

4.4.1 Increased IT Staff Development

One of the most significant recommendations in the "Responding to the Crisis" report was the proposal to double funding for development for IT professionals to approximately 3% of IT payroll for these positions. It was recognized that such an investment required lead time and planning; it was therefore proposed as a target for FY2001 planning. This recommendation was referenced in budget planning guidance issued to bureau heads, bureau chief financial officers and bureau chief information officers. In a May 12, 1999 memorandum, the Assistant Secretary for Management and Chief Financial Officer stated:

> ...it has become clear to me that we are not investing adequately in the career development of our information technology (IT) personnel. Therefore, I am asking that each bureau in the Department budget for the development and training of IT personnel. These budget plans should be reflected in the Fiscal Year 2001 budget...Your budgets should reflect future annual plans to maintain or increase IT staff development expenditures from this FY 2001 base level.

4.4.2 Bureau-Specific Initiatives

Assessment of IT Skills – IRS has undertaken the most extensive analysis of IT skills. In August 1999, it asked its 7,000 Information Systems associates to respond to a 40 page skills survey entitled "SKILLS@IS - The Future IS in Your Hands." This nationwide skills inventory provided IRS with an extremely broad and detailed vision of its IT workforce. The questionnaire focused on the identification of business knowledge, technical and leadership roles, general and technical skills, and functional knowledge. The inventory, conducted voluntarily and anonymously, was successfully accomplished in partnership with the National Treasury Employees Union. The overall questionnaire response rate was 48 percent and provided a significant skills baseline for the entire IS organization.

Overall, the IRS Skills Inventory Team confirmed that the IS organization will be losing skills due to retirement and attrition, but concluded that the effects could be adequately managed through new human resources skills processes. Specifically, the analysis showed that IS faces future skill gaps in both management and IT skill areas but not in the functional knowledge area. Role gaps identified in the systems area will be in programming, systems engineering, and testing/product assurance.

High-level strategies to fill identified role and skill gaps addressed: training; recruitment; retention incentives; and external sourcing. This will require additional investments in training

and the development of a comprehensive skills inventory/competency management program as part of the IRS workforce planning process.

OCC plans to conduct an IT skill survey for all IT professionals in the Summer of 2000. A database of skills will be maintained and a gap analysis will be conducted. Based upon this skills assessment, OCC will develop IT skills plans to meet its organizational needs.

Customs is developing a National Training Plan (NTP) which will establish standardized curricula for the major occupational groups, including the GS-334 Computer Specialist series. The NTP is the first step toward creating career development programs for Customs occupations. Customs is using the new OPM IT occupational specialty titles in establishing specific training requirements.

Commitment to Meeting Departmental Investment Targets for IT Staff Development – A number of bureaus did not wait for the FY 2001 budget to address the staff investment targets established by the Department and the Treasury CIO Council. For example, the Bureau of Engraving and Printing increased its IT staff development expenditures from a level of 6% of IT staff payroll in FY 1998 to 7% in FY 1999 and has budgeted to maintain this level in FY 2000. Customs is increasing its level of IT staff development and plans to increase funding again in FY 2001. The Secret Service identified IT skills development as its number one priority IT initiative for FY 2001 and 2002. It committed to setting aside an amount equal to three percent of the information technology staff payroll as the training allocation. OCC continued to strongly support IT career development. It allocated 6% of its 1999 IT budget for IT staff development and training. BPD also increased IT staff development spending.

Increased Use of Distance Learning Technology – The Internal Revenue Service continues to support the concept of a "Treasury School of Information Technology." It has renegotiated many of its computer-based and web-based training programs so that it can deliver these programs to the broader Treasury Department. In 2000, it will make these programs available to the bureaus; the cost per training incident will be greatly reduced.

The Federal Law Enforcement Training Center is participating in the use of the IRS on-line IT training program. About 25% of FLETC's IT workforce is taking one or more IRS training courses.

Customs has a commitment to increased use of learning technology. In response to Executive Order 13111 and the Commissioner's interest, Customs has established a Distance Learning Board (DLB) comprised of five Assistant Commissioners. The DLB oversees the expansion of the delivery of training in Customs through the maximum use of new technology. Customs has established a Distance Learning Support Team (DLST) which is responsible for driving the Customs Service towards maximum use of available training technology and for focusing that effort in response to E.O. 13111. Specific functions of the DLST include:

> Assessing Distance Learning (DL) capabilities and needs throughout Customs
> Developing and maintaining a strategic plan for DL
> Identifying opportunities to partner with other agencies involved in DL
> Engaging in governmentwide DL initiatives for bench marking DL successes

Recommending specific DL projects to the board for funding

The Mint has also made a commitment to increase the use of learning technology. The CIO has established a Distance Learning support team. The Mint has also established a training team consisting of four instructors.

4.5 Management Development

OBJECTIVE	DEPARTMENT ACTION	BUREAU ACTION
Improve IT workforce skills in project management	Worked with IRS to open its contracts and promoted use of these contracts Department-wide	BPD and Customs make significant use of IRS project management training contract
Improve first line management skills of IT managers	Action not funded in FY 2000	IRS creates pre-Executive Development program to improve IT managerial skills; BPD broadens scope of IT management training

4.5.1 Participation in IRS Project Management Training

In 1998 IRS re-competed its existing project management training contract with ESI international so that IRS could offer project management training to the entire Department. Significant discounts were achieved. IRS administers the contract and allows participants to take any courses in the vendor's current Project Management and/or Contract Management catalog. As a result of the contract renegotiation, IRS obtained significant discounts from the published prices (30% discount for project management courses and 15% discount for contract management courses). A total of 351 training slots have been ordered to date for FY2000; 266 for the IRS and 85 for non-IRS Treasury participants. Some of the project management courses are web-based and one of the basic project management courses is on CD-ROM.

Customs made use of the IRS project management courses and plans to continue to do so in the Year 2000. It conducted 53 instances of project management training through three on-site training programs. BPD also used IRS's project management contract to bring two IT project management courses in-house, resulting in substantial travel savings. BPD trained 32 employees on site and sent another 5 to off-site project management programs through the IRS contract.

4.5.2 Bureau-Specific Initiatives

IRS has created a new "Information Systems Executive Readiness Program" aimed at improving managerial skills of technical professionals and improving their ability to compete for the IRS Executive Development (XD) program. There are three components to this readiness training: developmental details; training; and mentoring. Twenty candidates completed the Executive Readiness and Training and Development Seminar held January 31 through February 3, 2000. The seminar included training in fiscal/budget competencies. Participants will also be attending IRS "Influencing Outcomes" training and "Strategic Leadership" training. Additional programs include support for the Executive Development application process, including training in communication skills. The delivery of project management training via CD-ROM is being pursued for the participants. Finally, training in experienced-based interviewing and HR management for executives are being planned to supplement this broad training program.

BPD offered its staff four additional management-related courses. These courses, listed below, accounted for 43 instances of training.

> "Implementing the Clinger-Cohen Act"
> "Integrated Operations Architecture Training"
> "IT Boot Camp" (a strategic overview course, not technical)
> "Management Problems of a Technical Person in a Leadership Role"

4.6 IT Senior Management Selection and Development

OBJECTIVE	DEPARTMENT ACTION	BUREAU ACTION
Improve IT skills of senior IT managers	Worked with OPM to establish plan for executive selection competencies; Worked with GSA to establish learning objectives for CIO University; Established Interagency Agreement with DoD; Established Information Management Forum contract	Secret Service, IRS, Customs, FMS and Department CIO Office fill 79 slots at DoD IRM College; IRS and Mint try CIO U; Information Management Forum participation by OTS, OCC, Department CIO Office, Customs, BEP, Mint, FinCEN, FMS and IRS
Assess senior management against Treasury CIO competencies	Study conducted in CY 1998; Will be repeated in CY 2000	IRS extends senior management assessment to top 40 IT execs

4.6.1 Selection Requirements

The 1998 assessment of Treasury IT senior management demonstrated that there was wide variety in the depth and breadth of competencies of the Department's IT management. It was clear that without some structured way to assess and develop senior managers, these diverse patterns would continue. The ITWIP program developed a statement of work for the development of evaluation and selection criteria which could be used for IT senior executives and managers in the Department. On August 23, 1999, this approach was discussed with senior leadership in OPM. OPM agreed to consider Treasury's work and integrate it into its overall review of the IT occupation. Treasury's IT and HR leadership agreed that Treasury's

requirements were not unique and that a governmentwide approach would be preferable to a Treasury-unique approach.

4.6.2 GSA Development Programs

The General Services Administration, under the auspices of the Federal CIO Council IT Workforce Committee, has developed two innovative IT leadership programs. The Department's IT Workforce Improvement Program has participated in the development and initial sponsorship of these programs.

CIO University **--** The CIO University program (http://www.ciouniversity.cio.gov/) was developed through an extensive effort to convert the Federal CIO core competencies into specific learning objectives which could be taught through a formal curriculum of study. ITWIP participated in focus groups which established these objectives. Treasury's work on Senior IT Management competencies was also used in GSA's program development process. GSA contracted with four universities (Carnegie Mellon University, George Mason University, George Washington University and the University of Maryland University College) to offer this curriculum. Those who complete the programs can attain substantial graduate level credit, the important credential of a "CIO Certificate," and broad grounding over the full range of technical/professional qualifications needed by a Federal CIO.

IRS has committed to send one employee through the program in CY 2000. The Mint plans to send two employees through the Carnegie Mellon Survey Course for CY 2000 and CY2001 and to send three employees to the more extensive and intensive programs at the University of Maryland and George Washington University.

STAR (Strategic and Tactical Advocates for Results) – GSA's STAR program (http://www.star.gsa.gov) replaces the "Trail Boss" program which was GSA's premiere program for senior IT acquisition leadership. STAR recognizes the increased complexity of the federal arena "...where operational functions are outsourced and agency business objectives and outcomes are key." It focuses on developing leaders with a broad range of program and project management, leadership, security, technology and government-specific skills. This approach is highly consistent with Department findings in its 1999 study of IT senior IT management competencies. Because of the broad focus of the STAR program, GSA is offering it to IT and non-IT leaders governmentwide.

The inaugural STAR program in December 1999 included five Treasury participants: three from Customs and two from IRS. The Department is now negotiating with GSA to fill 30 slots in CY 2000 programs. The Departmental CIO Office plans to use the program as a vehicle for training and team building for key officials involved in the Department's telecommunications network planning and management.

4.6.3 DoD IRM College Programs
The Department of Defense offers an excellent IT management development program through its National Defense University Information Resources Management (IRM) College. Historically, however, DoD has offered civilian agencies only limited participation in this program. It contains two components: 1) a semester long Advanced Management Program (AMP); and 2) a series of week-long intensive program classes. Each component offers participants the opportunity to earn a DoD CIO Certificate (covering the Federal CIO Council identified competencies) and substantial graduate school credit.

An interagency agreement to support the program was established in the Fall of 1999. Comments from bureaus on the quality and relevance of the training have been highly favorable. Participation in FY 2000 will be as follows:

   AMP Program – IRS (3); Customs (2); Secret Service (1)
   Intensive Program – Secret Service (44); Customs (24); FMS (8); Department CIO Office (7)

4.6.4 Information Management Forum
In 1999, the Department joined a primarily private sector discussion forum called the Information Management Forum (IMF). IMF is a vehicle for IT managers to share their technical challenges and accomplishments in an open, not-for-attribution format which encourages discussion and networking. It provides Department IT officials with an opportunity to keep up with IT developments in the private sector and to get information without attending conferences which are often dominated by vendors putting the best face on their technology offerings.

Topics during 1999 included: enterprise management; supply chain strategies; knowledge management; new HR approaches in IT; and IT Support. The Department provided speakers for two of the conferences in 1999: FinCEN discussed data mining at a Knowledge Management session, and the ITWIP program manager presented the Department's plan for IT renewal. Additionally, Treasury provided two speakers, from Customs and the Secret Service for the IMF CIO general session in March 2000. Bureaus attending sessions in 1999 included Customs (2), BEP (2), Mint (2), Departmental Offices (3), OTS, OCC, FinCEN and FMS. IRS maintains its own IMF membership and actively participated in the general conference program and the Human Resources Program. Several bureaus have also made use of the IMF Connect service which provides members with assistance in networking among each other to identify how each addressed common IT challenges.

4.6.5 Bureau-Specific Initiatives
In July 1999 IRS completed a Senior IT Management Assessment of its 40 senior IT managers as part of an executive competency development program. This assessment paralleled the Department-wide study undertaken in 1998 and provided IRS with more detail on its senior management cadre. The assessment determined the degree to which the IS executive corps possessed and valued the competencies developed by the Treasury CIO Council. The findings indicated that while all ten competencies identified by the Council were rated as important, there was a need to particularly focus on: Leadership; People Management; Mapping IT to Mission; Performance Measures; and Acquisitions. A comprehensive strategy to address these

competencies is under development.

BEP's CIO is participating in its SES development program. This includes: formal training at the Federal Executive Institute; Harvard and MIT seminars; and rotational assignments with non-IT executive leadership.

4.7 Program Evaluation

OBJECTIVE	DEPARTMENT ACTION	BUREAU ACTION
Develop a comprehensive evaluation plan for IT improvement strategies	Action not funded in FY 2000 Encouraged bureau evaluation efforts using GAO Human Capital Checklist	Customs and IRS undertake extensive workforce planning initiatives and collect data for baseline analysis

4.7.1 Bureau-Specific Initiatives
As described in sections 4.2.3 and 4.4.2, IRS has done an extensive baseline analysis on its current IT professional workforce and its current skill set. It will be working with employee representatives to establish more comprehensive efforts to develop identifiable skills profiles and improve IT skills to meet organizational objectives.

Customs is using an automated system, the Training Records and Enrollment Network (TRAEN) to manage courses and track class attendance. All FY1999 and FY2000 training instances have been input into the system. Customs is currently analyzing requirements for a more robust replacement system. These efforts will provide Customs with reliable data on costs and better employee skills profiles. Customs routinely uses the following data to make decisions and to plan:

> Attrition and retirement rates, including projected retirement dates;
> Average time required to fill vacancies;
> Data from exit interviews;
> Statistics on grievances, EEO complaints, and findings over time;
> Percentage of operating budget spent on training and the amount per employee.
' Training tracking and evaluation data.

CHAPTER 5 - CONCLUSION

The "Responding to the Crisis" report provided the Department with a call to action by defining the scope and nature of the IT workforce challenge. The Department responded to that call by identifying IT skills as a critical part of its IT Strategic Plan and by developing a specific IT workforce improvement implementation strategy. Pursuing this plan has involved participation in governmentwide forums to urge needed reforms. It has also involved the establishment of Department-wide initiatives to provide bureaus with economical and efficient structures for improving their IT workforce. Several bureaus have responded with their own bureau-specific and complementary strategies and approaches. Building on these plans and developing a sustainable program for IT skills improvement will require increased resources and increased management commitment both at the Department level and within each bureau. Proposals that will be made in CY 2000 include:

Increase Bureau Budgets for IT Professional Staff Development – The Assistant Secretary for Management issued guidance to bureaus to increase their investment in their IT workforce. She referenced the "Responding to the Crisis" report which proposed a minimum level of investment of 3% of IT payroll by Fiscal Year 2001. Several bureaus immediately increased their skills investment or made plans to reach this target. However, a substantial number of bureaus have not yet reached this target and may not do so by 2001. The Department needs to work with these bureaus to ensure that this minimum level of investment is reached by as many bureaus as possible in FY 2001 and by every bureau in the FY 2002 budget. Study after study demonstrates that career development is important to IT professionals. We would not expect employees to work without the basic equipment of their jobs such as telephones and desks; we must view development as a core cost of employing each IT professional and we must be consistent in our commitment to fund staff development.

Develop Specific and Measurable Objectives for the IT Skills Improvement Program – In launching our IT skills program, assessment and evaluation have taken a back seat to service delivery and program coordination. To support and sustain the type of spending program need for the IT skills area, the Department must have clear and measurable performance and results objectives. The Department and its bureaus will develop measures of workforce competency which can serve as benchmarks against which progress can be measured.

Share Information about IT Skills Department-wide – As key IT professionals retire over the coming years, the Department is likely to be increasingly constrained in its ability to acquire the technical skills that it needs to perform its missions. One way to effectively deal with this is to make improved use of the technical talent within the Department. Bureau skills databases can be built in complementary formats and common structures. Best practice forums and corporate communication forums can be built to allow the sharing of critical knowledge and technique. These knowledge management structures can provide for more cost effective resource identification and skill sharing than now exists.

Build Improved Partnerships Between IT and Non-IT Executives – One of the most critical factors in any IT project's success is the buy-in and commitment of the customer. The Clinger-

Cohen capital investment review board forums have facilitated improved communication between IT and non-IT executives. However, to create true partnerships, there must be improved understanding and commitment by both parties. IRS's IT for Non-IT Executives program needs to become a mandatory part of non-IT executive training so that the decisions made in investment review boards are truly informed decisions. Non-IT executives need to see the opportunities and challenge of technology and become aggressive advocates for IT results.

Improve IT Management Skills – Too often, IT technicians have been promoted to management without adequate preparation for their new jobs. Nothing has a greater negative impact on IT retention than poorly performing and unsupportive supervisors. We have traditionally trained supervisors on administrative processes; we need to sponsor training that better prepares our IT managers for the full scope of their jobs.

Increase Use of Training Technology to Improve Workforce IT Skills – There are significant cost advantages available to the Department by combining the technology-delivered training requirements of its bureaus. Training technology programs often have high initial infrastructure costs and create significant economies of scale. By consolidating its requirements, the Department of the Treasury can make IT related training available to its workforce at lower costs.

Enhance Workforce Planning Capability and Improve Workforce Management Tools – Treasury IT and HR organizations need to continually monitor and project IT workforce needs. Workforce strategies that are informed depend upon effective tools and accurate data. It is likely that the strategies necessary to maintain and improve Department IT performance will need to include many novel approaches. Increasingly, private sector IT workforces are composed of telecommuters, temporary workers and independent contractors. The Department needs to adjust its strategies to this new environment. It may also need to develop focused efforts to retain key subject matter experts beyond their anticipated retirement dates. A wide range of workplace strategies and structures need to be considered in responding to this challenge.

Increase Recruitment Outreach – With so few IT professionals entering the Department of the Treasury, establishing cohort groups (such as the IT Professionals program) is increasingly important. Without such groups, it will be difficult for new recruits to become acclimated to the Department workforce. Unhappy talented employees leave. Also, the Department needs to play a part in national efforts to build IT skills throughout the nation. It should continue and expand its outreach to high school and college students through programs like the National Academy Foundation IT academies and through co-op and intern programs.

 To cost effectively accomplish the Department's mission we must apply modern technology and improve productivity. The leadership and skills of the Department of the Treasury's IT workforce will have a major impact on the Department's use of technology. Through the initiatives outlined here we will be proposing a sustainable strategy for managing and improving the most important part of the Department's technology infrastructure: its people.

APPENDIX

U.S. Department of the Treasury
Information Technology Workforce Improvement
Implementation Strategy

July 1999

EXECUTIVE SUMMARY

The Report to the Secretary of the Treasury, "Responding to the Crisis in Information Technology Skills," February, 1999, proposed that once its recommendations were reviewed and evaluated, a specific action plan would be developed to implement all approved recommendations. This document serves as that plan.

Since the Report to the Secretary was approved by the Treasury CIO Council, the IT Skills Enhancement Subcommittee has been defining an implementation strategy outlining specific programs to carry out the approved recommendations. That implementation strategy was reviewed and endorsed by the IT Workforce Improvement Program Executive Advisory Board.

This is not a temporary or stopgap effort. It is an ongoing program of cooperation and economy which will allow the bureaus to capitalize on development expenditures by sharing costs and benefits. The goals of the program are critical to all components of the Department. Achieving the mission of the Department is dependent on having highly skilled IT workers and leadership and on improving the IT awareness and baseline knowledge of the non-IT workforce.

A. Guiding Principles
At its April 27, 1999, offsite strategic planning meeting, the CIO Council established the following guiding principles as they relate to this effort:

> Include training as part of the IT investment.
> Leverage IT skills across the Department, particularly the specialized skills.
> Share training resources.
> Give the user community knowledge to use the technology provided.
> Keep up with emerging IT trends.
> Invest in training that captures the full potential of IT investments.

In formulating our strategy for IT workforce improvement, we have been guided by these principles.

The tremendous diversity within the Department means that any particular program may well be of benefit to one bureau and not to another. The bureaus differ significantly in size, function and

location. In designing programs to serve the Department we have developed a comprehensive approach which will provide value across the Department. In doing so, we recognize that all programs will not be of equal value to all bureaus. However, we believe that a comprehensive effort has the best chance of meeting the goals set forth in the report. Further, wherever feasible, we will be making efforts to use technology to increase the accessibility of programs to smaller and more remote bureaus.

B. Implementation Programs
Part 1 of this strategy outlines each of the eight major categories in which work is needed and describes specific implementation initiatives. Then, it briefly describes each of these initiatives and its benefits to the Department. Finally, it outlines a process for broadening the effort to the total Department workforce and for evaluating the progress of the strategy. This program will be measured and will be results-driven. It will also be action-oriented; programs will be introduced, evaluated, modified and improved. The analysis of the 1999 Report to the Secretary has adequately identified the need for action and the appropriate targets for improvement.

C. Integrated Action Plan
Part 2 of this strategy identifies the significant administrative and program milestones and integrates them into a multi-year action plan. It represents the pace of achievement that can occur with the commitment and dedication of the CIO Council and the bureaus that it represents. A separate detailed funding and staffing proposal is under consideration and forms the basis for this action plan.

PART 1 -- IMPLEMENTATION PROGRAMS

The program outlined below consists of eight major components. These are:

A.   Strategic Policy Direction
B.   Improving Non-IT Workforce Skills
C.   Recruitment and Retention of IT Professionals
D.   Improved Near-Term Staff Support
E.   IT Workforce Skills Development
F.   Management Development
G.   Executive Selection and Development
H.   Program Evaluation

In each program description there is an introductory summary of key actions by fiscal year. This is followed by a brief description of the program and its benefits.

These eight program areas are not mutually exclusive. The transitions from trainee to journeyman to manager to executive are achieved through experience and training. Clearly, at every stage, those moving from one stage to another would need to begin to acquire the skills to perform at the next level. Thus, for instance, technical staff would need to gain knowledge and experience relevant to managers as they move to that level and managers would need exposure to executive competencies as they move to that level. Whenever possible, the cutoff levels established for training and development opportunities will be a level below the identified target audience.

A. Strategic Policy Direction

FY1999-2000 – Aggressively participate in Federal CIO Council and Office of Personnel Management Task Groups
FY 2001 – Focus on Inter-Agency Resource Sharing Opportunities

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Fiscal Years 1999 and 2000 present the best opportunity for inform national policy on Federal IT workforce issues. Action has already begun on this on several fronts.

A.1. OPM Task Group

In her April 20, 1999, memorandum to the Director of the Office of Personnel Management, Treasury's Deputy Assistant Secretary for Human Resources highlighted the recommendations in the report that called for reform and revitalization of Federal personnel practices affecting IT employees. Specifically, the letter called for:

> OPM review of IT occupational series (GS-334, GS-391, GS-1550, etc.) and reform of the qualification, classification and compensation structures for these positions. It called for the creation of a "more dynamic and responsive system to address the new skills

required by constantly changing technology."

Redirection of the current OPM IT occupational competency study to "...explicitly establish career development planning as a primary focus of its efforts to study the IT occupation."

OPM sponsorship and support for legislative change that would allow agencies more flexibility in sponsoring and paying for degree and technical certification related training.

OPM sponsorship and support for legislative change that would permit agencies to offer bonuses "...which could be tied explicitly to the completion of a term of employment or a task."

In response to these proposals and Federal CIO Council initiatives, OPM has invited Treasury's CIO Office to participate in its IT occupational studies and has begun the process of updating the IT occupational categories. On June 2, 1999, OPM invited Treasury and representatives from the Federal CIO Council IT Workforce Committee to participate in its IT Occupational Study on an ongoing basis. Although this may be a rather labor intensive effort, it will provide Treasury with the entree to define and compensate critical job categories and to play an important role in defining new IT job families and the process by which these job families are updated.

A.2. Federal CIO Council IT Workforce Committee
Another major venue for getting government-wide change is the Federal CIO Council IT Workforce Challenge initiative. Final recommendations of the IT Workforce Challenge group were presented to the Federal CIO Council Executive Committee on May 19,1999. A report from the Federal CIO Council IT Workforce Committee, "Meeting the Federal IT Workforce Challenge," was released to the public on June 24, 1999. Major proposals include:

1. Reexamination and reform of the compensation structure for IT employees.

1. Continuation of Year 2000 flexibilities for several additional years to allow for a post Year 2000 transition as large numbers of experienced workers become eligible for retirement.

1. "Critical vacancy" accelerated hiring authority for IT employees in highly competitive labor markets. This would be akin to "direct hire" authority and would allow immediate or near immediate hiring in shortage technical specialties.

1. Federal participation in regional skills alliances with universities, private sector companies and State and local government.

1. Creation of school for service plans directed at helping promising college students with tuition in exchange for service guarantees.

These ideas were presented to top executives from the Office of Personnel Management and other stakeholders at a meeting on April 6, 1999. We anticipate OPM and Administration

support for several of the initiatives.   As this policy/legislative phase winds down in the Year 2000, it is anticipated that the Federal CIO Education and Training Committee will turn its attention to simplification and resource sharing initiatives in which Treasury would benefit through its continued cooperation and leadership.

Benefit: By playing an active and aggressive role in national forums, Treasury has been able to find agencies with common concerns and has informed public policy on a larger scale. Objectives of this effort include: 1) more specific and more relevant job categories; 2) improved flexibility for hiring and retention incentives for critical skills and speedier hiring process; 3) improved ability to reward and retain technical staff without moving them to management ranks; and
4) reduction of legislative, administrative and financial barriers to skills development.

B. Improving Non-IT Workforce Skills

FY 1999 – Design a structured certificate program for non-IT executives giving them a broad understanding of the CIO competencies.
FY 2000/2001 – Continue the highly successful Treasury Executive Institute seminars on information technology topics on a three session per year basis.
FY 2000 – Identify competencies needed for the non-IT workforce
FY 2001 – Begin delivery of programs to improve capabilities of the non-IT workforce.

Non-IT workforce areas to be addressed between now and FY 2002 would include non-IT executive skills and general workforce IT literacy. Although IT workforce improvement was the focus of the 1999 Report to the Secretary, it is not the entire IT skills mandate for the CIO. The Clinger-Cohen Act calls for the CIO to identify and enhance the IT needs of all of the personnel working for the Department.

B.1. Promote Non-IT Executive Development
The cooperation of IT executives and non-IT executives is critical in developing effective IT strategies and architectures that effect agency missions. A key to achieving this cooperation is improving the breadth and depth of communication between IT and non-IT executives. The Treasury Executive Institute (TEI) provides a unique vehicle for the getting IT and non-IT executives together to gain a better understanding of technology. Joint TEI sessions provide one avenue for fostering such communication. We believe that this can also be supplemented by developing a broad-based executive development effort directed at enhancing IT skills and understanding by non-IT executives.

Over the last year and a half the IT Workforce Improvement Program has worked with TEI to establish a consistent approach to exposing executives to major IT challenges. These have included capital planning, IT architecture, electronic commerce and CyberTerrorism. These sessions have been able to attract world renowned technologists, and top private sector practitioners. They have also offered Treasury bureaus the opportunity to showcase their own

efforts to introduce state-of-the-art technology and management principles into their organizations. Our strategy projects continuing this program with three sessions each year in FY 1999-FY 2001. These would be on a range of technologies and competencies under Clinger-Cohen and would be designed to appeal to a broad range of IT and non-IT executives and engage them in discussions with one another and with leaders in the IT industry.

A more comprehensive approach to a non-IT executive curriculum will be developed based on Clinger-Cohen core competencies identified by the Federal CIO Council. This curriculum will address the core learning needs of the non-IT executives and provide a competency-based foundation for assessing the investment value and benefits of IT solutions proposed to meet business needs. The developed curriculum will meet the IT training needs of executive development candidates and incumbents within Treasury and its Bureaus. The class will be piloted with the IRS Executive Development class convening in September 1999. A generic version of the class will be delivered to Treasury Executive Institute (TEI) for use Department-wide by December 1999.

B.2. Promote IT Literacy for the Non-IT Workforce
The ultimate success of IT systems lies in the hands of those who must successfully use them, i.e., end users. To the extent that they are not trained in the technologies that they will use or they do not have the basic technical literacy to quickly learn new technologies, there will be limits on how quickly and effectively technology will infiltrate the Department and improve service to our citizens.

This implementation strategy proposal calls for research and analysis on non-IT workforce populations so that appropriate developmental opportunities can be offered to non-IT employees whose performance is affected by their knowledge of and capability in IT disciplines. Efforts will take place in FY 2001 to assess our skills and needs in this area. It is too early to effectively assess this situation or the strategy by which these competencies will be identified or measured.

Benefit: With the enactment of Clinger-Cohen Act, investment review boards have been established which make IT and non-IT program executives partners in IT decision-making. However, IT and non-IT executives need to work together to gain a much better mutual understanding of how IT solutions can address business problems. Indeed, at the Secretary's succession planning offsite, non-IT executives selected information technology as one of their five most critical skill areas where they need development. The Department will begin the process to
engage and support non-IT executives in developing IT skills and knowledge which will lead to their increased involvement in IT decision making.

Improved capability by non-IT staff will allow the Department to fully capitalize on the technology that has been introduced into the workplace. Getting a better understanding on the expertise and challenges of the non-IT worker will help the IT Workforce Improvement effort develop more cogent and effective strategies for identifying and improving needed skills.

C. Recruitment and Retention of IT Professionals

> FY 1999/2000 – Establish an IT Professionals intern program
>
> FY 2000 – Recruit first IT Professionals intern class.
>
> FY 2000 – Pilot skills alliances, and university recruiting efforts and high school academy support and establish plans for FY 2001 participation in these programs

A high priority needs to be attached to opening the pipeline for new workers and making it easier for them to apply and get jobs. We also need to improve our retention of these workers.

C.1. Promote Treasury to New IT Professionals

The Internet has become a primary route to identify and apply for technology positions. However, until recently Treasury's Internet page had little or no information about the challenging IT positions available at the Department. Finding out about employment opportunities in the Department involved extensive and dedicated efforts to search by trial and error. Treasury's new Internet employment link is presenting Treasury in a much more favorable light. It needs to be further tailored to promote IT careers within the Department. In FY 1999, we will establish a new link on the Treasury home page; this link will highlight IT careers in the department. It will

provide more information about these opportunities and will also highlight efforts underway to recruit top talent and to make the Department a better employer for IT personnel. This initiative will build on the current renovation of the Treasury Internet employment home page. IT personnel have been working with HR personnel to determine an effective marketing approach for IT jobs.

C.2. Establish Department Career IT Professionals Intern Program

Our highest priority initiative for FY 2000 will be the establishment of an IT Professionals Intern Program. Its objective will be to establish a pipeline for top technical talent to enter the Department and get broad exposure to its missions and technical challenges. The Defense Information Systems Agency (DISA) has had an outstanding intern program in place for the last 10 years or so. It has produced approximately 80% of DISA's technical management leadership. We will model our efforts on that program.

To get the type of talent needed and to retain it will require substantial planning. DISA is currently dealing with the highest turnover rate in the history of its program (30%) because of the

tight competition in the IT marketplace. Treasury will need to develop a creative program of recruitment bonuses, retention allowances, and all other available recruitment flexibilities to compete in the entry level marketplace. Building such a program and recruiting for candidates will require dedicated and creative planning. For the sake of this planning, we are assuming that the effort will begin in FY 2000 with a class of approximately 50 and that it will double to 100 in FY 2001.

As government-wide programs for tuition-for-service develop and mature, attempts will be made

to integrate those and existing co-op type programs into the Treasury IT Professionals Intern Program. Additionally, in-house candidates would be allowed to compete for these intern development positions to the extent they met the requirements established for the program. Participants in the program would have two or three work assignments lasting anywhere from six to nine months over the period and would work in multiple bureaus. The participants would have specific minimum training requirements; they would also have individual learning accounts of approximately $2,000 to $2,500 each to meet development objectives. We will also be examining the possibility of supporting post-graduate training and professional certifications for these interns. The objective will be to get and keep the very best.   The program should be advertised in February 2000, with the first candidates starting in June 2000.

C.3. Form Alliances with High Schools and Universities to Recruit Talent
The Department should expand the use of Co-op and other school/work arrangements to make Treasury known to promising high school and college students. The approach will be marketed to the bureaus. The scope of the program will be determined and skills sets will be defined for high school and college populations. Procedures for selection will be identified and the program will be promoted at schools. Development of the program will begin in the winter of 2000, with the selection of candidates and their placement into positions by the Fall of 2000.

Benefit: In the face of upcoming retirements, it is essential to begin the process to open the pipeline to bring new professionals into the Department. This program allows Treasury to gain recognition as a potential employer at the high school and college levels.   The Co-op and Academy programs allow Treasury to "try out" employees prior to making permanent selections. These programs along with the IT Professionals Intern Program will create a group of highly skilled IT professionals with a broad understanding of Treasury IT operations and interrelationships. They will create recruitment and retention tools that will allow the Department to attract and retain new IT professionals.

D. Improved Near-Term Staff Support

FY 2000 – Evaluate Office of the Comptroller of the Currency experience and consider Departmentwide potential for quick reaction IT staffing support
FY 2001 – Based on analysis results, institute Department-wide contract for temporary support

Although the 1999 Report to the Secretary did not attempt to analyze the pros and cons of contracting for IT support, it did cite a temporary staffing strategy with which the Office of the Comptroller of the Currency is employing with success. The Comptroller is contracting with a private firm to hire temporary IT professionals while recruitment is ongoing. In hard-to-fill positions, this has allowed the Comptroller to fill positions rapidly and get necessary work done while undertaking an often time consuming competitive recruitment and selection processes.

The IT Workforce Improvement group will undertake an assessment of the feasibility of establishing a Departmentwide contract for short-term/temporary services to provide support for critical vacancies. Data will be gathered on the OCC experience. The assessment will conclude on October 1, 1999. If it is determined that a contract is warranted, the contract will be awarded by January 1, 2000.

In addition, an effort will be undertaken within the Department to pilot a cross-over recruitment and training program for non-IT staff to move into IT positions. Development of the pilot will begin in the spring of 2000, culminating in pilot delivery in October 2001.

Benefit: Other agencies and private sector companies are increasingly relying on contract services to provide IT support. This avenue allows the government to acquire expert services quickly for short-term projects and in situations where the staffing process may delay the acquisition of needed skills.

The cross-over training project would allow the Department to capitalize on its in-house talent to bring business-savvy employees into IT without the costs of the external recruitment and hiring process. Although such cross-over recruiting exists today, those entering the IT career field are not always given the grounding and support necessary to maximize their effectiveness.

E. IT Workforce Skills Development

FY 1999/2000 – Establish Department budget strategy to ensure minimum staff development targets are technology-delivered IT training. met without adverse program delivery impacts.
FY 1999 – Complete IRS study of technology-delivered IT training.
FY 2000 – Established 3% of IT payroll as a minimum Department investment in IT staff development.

With the broad array of technical and program challenges facing the Department's IT staff it is difficult to define appropriate Department-wide strategies. Several of the bureaus are doing detailed assessments of their IT staff's capabilities and needs. The Customs Department is in the midst of such an analysis and the Internal Revenue Service is planning such an assessment as part of its overall reorganization. Other bureaus have systematic ongoing staff assessment processes in place. Rather than direct these efforts from the Department, the Information Technology Workforce Improvement Program is emphasizing two broader initiatives: first, developing a Departmentwide initiative to increase and sustain the continuous development of IT skills in the Department by developing a minimum level of investment across the Department;

and, second, to increase the reach of training by stimulating and supporting the increased use of technology in training delivery.

E.1. Commitment to Increased Development Funding
The 1999 Report to the Secretary proposes that each bureau in the Department raise its IT staff development spending to a minimum of three percent of its total annual spending on IT staff payroll. Only two bureaus exceeded this minimum spending level in FY 1998. Overall, this requires approximately a doubling of IT staff development spending (a Departmentwide increase of at least $9 million per year).

Action to effect this recommendation is underway. The Treasury CIO Council agreed to adopt this standard and the Assistant Secretary for Management informed bureau heads that this would be the Department's policy. A follow-on letter was issued from the Assistant Secretary to bureau heads, chief financial officers and chief information officers on May 12, 1999 requesting that bureaus increase their IT staff development investments. Budgets now being prepared for the FY 2001 Budget submission will be reviewed for their compliance with this policy. It is anticipated that this increased spending level will allow for substantially more growth in development programs in the Year 2001 and beyond. The Treasury CIO Office will work with budget officials to put the Department in the best possible position to sustain this level of investment as the budget is reviewed by the Office of Management and Budget and the Congress.

Approximate Department IT Training Budget Based Upon 3% of Payroll Guidance
(Guidance Effective for FY 2001)

Fiscal Year	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001
Recurring Costs:	$5.8 million	$9.3 million	Unknown	Unknown	$20 million (Estimate)
Percent of Total IT Payroll	1%	1.5%			3% (Proposed Minimum)

E.2. Commitment to Increased Use of Learning Technology
In addition to raising the general level of spending on training and development, the Department will promote technology-delivered training. This initiative involves identifying current Department efforts to use technology for IT training and assessing the potential market for IT training across the Department. It will identify the potential to utilize Web-delivered training to

end users with technical coaching support. Possible barriers to training such as technology, security, funding and training systems will be identified and investigated for mitigation.

Benefit: A greater spending level does not ensure that spending is efficient or effective. However, a strong commitment from the Department to train its technology workers will improve their performance and retention. The key to such a program will be its breadth and the

skill with which resources are managed.

Enhanced use of technology in training should be of particular benefit to bureaus that are remote from Washington, DC, and have limited travel budgets. Treasury can leverage resources across the bureaus to provide cost effective distance learning.

F. Management Development

FY 2000 – Develop and pilot components of an improved IT management development program.
FY 2000/2001 – Facilitate and promote project management training available through IRS's contract with ESI, International
FY 2001 – Begin systematic delivery of an improved IT management development program

The Report to the Secretary identified two major challenges at the management level. First, many IT managers have been promoted due to superior technical skills and may not have the breadth of management skills that are desirable. Historically, management training has focused on general management skills and administrative processes. It has not been as robust as is now required nor has it taken into account the unique needs of those moving from specialized independent technical roles to managerial work.

Second, IT managers are increasingly being called upon to integrate technical efforts with agency program objectives and are being required to coordinate their efforts with others in an increasingly complex project management environment. Integrating technical efforts with broader management programs and integrating contract assistance into large technology projects requires new skills.

F.1. Technology Leadership Program
The 1999 Report to the Secretary discusses a July 1998 focus group on management training that Treasury participated in and sponsored. The Treasury participants (representing the Federal Law Enforcement Training Center, the U.S. Customs Service, the U.S. Secret Service and the Internal Revenue Service) strongly supported a comprehensive and coordinated approach to management development which would address competencies in: Leadership, Human Resources, Project Management, Communications, Financial Management and Technical Operations (this would

provide an overview of technical disciplines, including hardware, software, telecommunications, IS security, etc.). The focus group felt that these foundation skills were critical to success at all levels of management and that they were often overlooked when technicians were moved into management positions. We propose the training modules geared around each of these six competency areas be developed and delivered on a pilot basis in FY 2000. A "Technology Leadership Certificate" or similar credential would be awarded by the Treasury Chief Information Officer to all managers who complete the total program. In FY 2001, the training would be available on a larger scale. Our objective would be that within the next three years (by 2003) all

Treasury IT managers would have completed this program.

F.2. Project Management Training
In addition to developing the skills of first line managers, Treasury must emphasize participation in the ESI Project Management curriculum and encourage bureaus to take advantage of this newly established contract for the benefit of the entire Treasury Department. Project Management training has been identified by the GITS Board as critical to successful IT performance. IT Project Managers must be skilled in detailed project planning and implementation issues.

The IRS let a contract for Treasury-wide Project Management training with a nationally recognized organization to provide a superior development curriculum which assesses the skills of the participants, tailors the training to their needs and provides for professional certification. The Bureau of Public Debt has already sponsored an in-house training program and the Customs Service and the Bureau of Engraving and Printing are exploring the feasibility of hosting their own programs. The Information Technology Workforce Improvement Program will coordinate these efforts where appropriate.

Benefit: The goal of this program would be to produce well-rounded managers who can achieve an improved business focus. IT managers must work closely with their customers on program and financial project justifications. Clinger-Cohen has required agencies to take a more holistic approach to IT investments.   This requires the manager to be more adept in areas to which they may not have much exposure. Setting up a cross-Department management training program will allow Treasury to leverage resources to provide needed training on a broad scale to benefit each bureau.

Project management skills are becoming a key to program accomplishment. Increasing the cadre of experienced and well-trained project managers will be key to the Department's success in an increasingly complex IT environment.

G. Executive Selection and Development

> FY 1999 – Develop CIO competency guidelines for job announcements and rating plans
> FY 2000 – Provide a range of short and long term executive development opportunities

There are two key elements to the Department's strategy for executive development. They are: 1) establishing clear and common requirements for those seeking senior IT jobs in the Department; and 2) improving the accessibility of development opportunities for current executives and senior managers and those aspiring to those positions.

G. 1.   Establishing Clear and Common Requirements for Executive Selection

The Treasury Core Competencies for IT Executives have been reviewed and validated by our IT leadership. Creating a cadre which has attained these competencies should be a critical goal in succession planning (particularly with 53% of Treasury CIOs reaching optional retirement eligibility within the next five years). It is recognized that occasionally there will be a need for bureau tailoring to account for unique characteristics of specific positions.

In order to utilize the Core Competencies for executive recruitment, a contractor will collapse the competencies into broad categories. Defensible rating criteria will then be developed for each category. The competencies and rating criteria will be integrated with SES qualification standards used for bureau vacancy announcements for both SES positions and positions announced under the auspices of SES Candidate Development programs. These technical and core qualification standards will simplify the application process and the rating and ranking process for key jobs.

G.2.   Improving Development Opportunities for Executives and Senior Managers

The Report to the Secretary identifies a need for a variety of programs to meet executive development needs. It found widely disparate needs among a dedicated executive corps that valued development. It recommended that each bureau support its executives through individualized development plans. Since these plans will be self-directed, they will not be monitored by the Department. However, the report did identify an opportunity for the Department to support executive development by identifying shorter-term development opportunities that could be accommodated within an executive's schedule.

To that end, the report suggested that the General Services Administration (GSA) CIO University, the Department of Defense (DoD) Information Resources Management College and the Information Management Forum be considered as possible sources to fulfill these development needs.

G.2.1 CIO University

The General Services Administration has designed the CIO University to meet the needs of IT executives and senior IT managers (GS-14 and GS-15). It is being launched this Fall. Pilot programs are expected to become operational in FY 2000. GSA is asking each agency to commit to sponsor executives in its pilot sessions. The IT Workforce Improvement Program office will facilitate communication as this program develops. Each bureau would plan for its own

participation. Some bureaus may wish to hone specific development needs of their executives whereas others will want their executives or senior managers to complete the entire range of CIO skills and gain a CIO Certificate. The program will accommodate both approaches.

G.2.2 DoD IRM College
DoD has decided not to propose as part of the CIO University network. Instead, it offers its own CIO Certificate in a variety of formats. The traditional Advanced Management Program is a 14-week full time program. Current executives who cannot be away for such an extended period of time may want to take advantage of the "Intensive Course" approach. The Information Technology Workforce Improvement Program will coordinate this effort by negotiating a Department-wide interagency agreement with DOD to reduce costs and simplify administration for the bureaus.

G.2.2.1 DoD IRM College Advanced Management Program
The IRM College offers an Advanced Management Program (AMP) which is a 14-week training program which may be best suited to high potential managers who can be away for an extended period. Participants can gain broad knowledge of CIO competencies, earn a CIO Certificate, and get 15 hours credit toward a masters degree. The programs generally run on a semester basis (September to December and January to April). Managers who participate can rapidly gain a broad understanding of the competencies required in the CIO role. They will do practical exercises that will benefit their learning and contribute to their organizations.

Department coordination of this activity has already increased its availability to Treasury for the upcoming fiscal year (from 4 slots per year to six slots). With so few openings, some Department coordination and evaluation of applications may be necessary to ensure fairness in the distribution of these slots.

G.2.2.2 DoD IRM College Intensive Courses
Twelve intensive one week courses are offered in the CIO Certificate program. By completing eight of these courses within four years, participants can gain broad insight into the competencies required of the CIO by the Clinger-Cohen legislation. Participants can not only gain this broad knowledge and the certificate, they can also earn up to 15 credit hours toward a Master's degree at Syracuse University, East Carolina University, James Madison University or the University of Maryland.

The ITWIP office can facilitate this program and simplify its administration by consolidating the needs of its bureaus. The Environmental Protection Agency has worked with the IRM College to

pilot this concept. EPA has committed to a specific number of participants (seats in programs) at the one week sessions. Funds are then transferred to DoD for the entire year's activity (DoD planning for staffing and administration is done in June). In return, DoD reduces the per class fee. It also simplifies administration, requiring only a list of names (no SF-182's or other training acquisition forms) from EPA. DoD has offered the same arrangement to Treasury. Treasury bureaus have committed to sponsor 70 seats in Fiscal Year 2000 to get this program underway.

G.2.3. Information Management Forum
The Department has subscribed to a one year membership in the Information Management Forum

(IMF), which is a consortium of government and private IS executives working together to share information technology management experience. The one year membership covers two attendees at all of the IMF Conference Programs. This membership entitles the Department to two seats at each of the several sessions IMF hosts throughout the year. Most meetings are one to two days and can be managed by executives without disrupting their normal work and meeting schedules.

The IMF will also support the facilitation of networking between its member companies on technical challenges of mutual interest. This subscription is subject to annual renewals based upon experience and satisfaction. The current subscription runs through February 2000. Since many in the Department are not familiar with the IMF it is anticipated that this program will be evaluated on an ongoing basis so that a broad range of experience can be gained and so that an appropriately balanced assessment of its value can be made.

Benefit: By adopting the validated Treasury CIO Core Competencies as a uniform core of senior IT management skills, the Department will establish more uniform announcement and selection criteria, and will allow employees to better understand what skills they need to succeed at the top level. It will make it easier for all Treasury employees to apply for such positions and it will simplify the rating and ranking of candidates for these key positions.

Formal CIO Certificate development programs like those offered by GSA and DoD allow current and prospective senior managers to develop the competencies they need to maximize their effectiveness. These programs are focused on the competencies that Treasury has validated as critical for top IT jobs. The IMF programs allow Treasury executives and managers to learn about best practices and to network with their counterparts in private industry in an informal "not for attribution" setting. These programs can be planned and organized so that they cause minimal disruption in an executive schedule.

H. Program Evaluation

FY 1999 – Establish Evaluation Plan
FY 2000/2001 – Provide Evaluation of Progress and Future Plans in Annual Reports

The evaluation of the IT Workforce Improvement program needs to be an integral part of the program. At an early stage, the benefits and objectives identified in this strategy outline need to be converted to measurable objectives. The discipline of the Clinger-Cohen Act, requiring an annual report to the Secretary, will help ensure that goals are defined and progress against goals is measured. The FY 1999 report provides a broad baseline for the IT workforce effort. Future reports should measure progress against that baseline.

Additionally, in FY 2000, the effort will broaden to cover non-IT executives. The FY 2000 report will cover the baseline for this population and the FY 2001 report will measure progress against that baseline.

Finally, in FY 2001, the effort will broaden to cover end users of technology in all Department functions. After FY 2001, the report will be comprehensive across the Department, but will be focused on solving the problems that have been identified.

PART 2 -- INTEGRATED ACTION PLAN

Fiscal Year 1999

Fourth Quarter

Gain Approval for Staffing and Budget for IT Workforce Improvement Effort and Transfer Funds to the Working Capital Fund to Support this Effort

Recruit Permanent Staff and Detailees

Coordinate Treasury Participation in OPM Focus Groups on IT Occupation Classification Panels (June 15 - July 30, 1999) (A) – **N.B. Notations at the end of each milestone refer to strategy descriptions in Part 1**

Participate in OPM IT Occupation Study Work Group (June 1, 1999 - July 30, 2000) (A)

Represent Treasury and Participate in CIO Council Education and Training Committee (Ongoing) (A)

Conduct One TEI Session – Topic TBD (B.1)

Develop Non-IT Executive Certificate Program in IT (IRS-Funded Candidate Development Program; May 1 - September 30, 1999) (B.1)
Develop and Award Task Order to Design IT Careers Component of Treasury Internet Web page (C.1)

Develop and Award Task Order for Design of Treasury IT Professionals Intern Program (C.2)

Work with Department Budget Staff to Establish Strategy for Gaining OMB and Congressional Support for Increased IT Development Funding for FY 2001 Budget (E.1)

Complete IRS Study on Increased Use of Learning Technology (E.2)

Coordinate Treasury Participation in GSA CIO University and DoD IRM College and execute appropriate agreements (G.2.1 & G.2.2)

Fiscal Year 2000

First Quarter
Conduct Class #1: IT 101 for Non-IT Executives (B.1)

Complete and Activate IT Careers Component of Treasury Internet Web page (C.1)

Coordinate Treasury Participation in the Development of IT Curriculum for National Academy Foundation IT Career Academy (C.3)

Based Upon IRS Study on Increased Use of Learning Technology, Establish Plans and Schedules for Rollout of Distance Learning Programs (E.2)

Design Structure for Technology Leadership Management Development Program (F.1)

Execute Interagency Agreement to Transfer funds to DoD for Treasury Participation in DoD IRM College programs (G.2.2)

Develop Evaluation Plan for Information Technology Workforce Program Strategy (H)

Second Quarter
Issue Annual Report to the Secretary on IT Skills (A) and Assess Progress Against Develop Evaluation Plan for Information Technology Workforce Program Strategy (H)

Conduct Class #2: IT 101 for Non-IT Executives (B.1)

Conduct One TEI Session – Topic TBD (B.1)

Initiate Study of End User IT Competencies (B.2)

Recruit and Hire Director for Treasury IT Professionals Intern Program (C.2)

Complete Design of Treasury IT Professionals Intern Program (C.2)

Issue Job Announcement for Treasury IT Professionals Intern Program (C.2)

Complete Analysis of Value of Short Term Staffing Contracts Across the Department (D)

Run Pilot Classes for at least ½ of Technology Leadership Management Development Program (F.1)

Renew Information Management Forum Membership (G.2.3)

Third Quarter
Conduct Class #3: IT 101 for Non-IT Executives (B.1)

Conduct One TEI Session – Topic TBD (B.1)

Hire First Class for Treasury IT Professionals Intern Program (C.2)

Issue Guidance to Bureaus to Continue Minimum 3% Funding Level for IT Development Funding for FY 2002 Budget (E.1)

Run Pilot Classes for at least ½ of Technology Leadership Management Development Program (F.1)

Coordinate Treasury Participation in GSA CIO University and DoD IRM College and execute appropriate agreements (G.2.1 & G.2.2)

Fourth Quarter
Conduct Class #4: IT 101 for Non-IT Executives – Issue Certificates to First Class

Conduct One TEI Session – Topic TBD (B.1)

Completion of IT Curriculum for National Academy Foundation IT Career Academy (C.3)

Fiscal Year 2001

First Quarter
Conduct Class #1: IT 101 for Non-IT Executives (B.1)

Promote Treasury Participation in National Academy Foundation IT Career Academy Mentoring Programs (C.3)

Create Departmentwide Short Term Staffing Contracts Across the Department (D)

Initiate Schedule for Regular Training Programs in Technology Leadership Management Development Program (F.1)

Execute Interagency Agreement to Transfer funds to DoD for Treasury Participation in DoD IRM College programs (G.2.2)

Second Quarter
Issue Annual Report to the Secretary on IT Skills (A) and Assess Progress Against Develop Evaluation Plan for Information Technology Workforce Program Strategy (H)

Conduct Class #2: IT 101 for Non-IT Executives (B.1)

Conduct One TEI Session – Topic TBD (B.1)

Issue Job Announcement for Treasury IT Professionals Intern Program (C.2)

Conduct Routine Classes for Technology Leadership Management Development Program (F.1)

Renew Information Management Forum Membership (G.2.3)

Third Quarter

Conduct Class #3: IT 101 for Non-IT Executives (B.1)

Conduct One TEI Session – Topic TBD (B.1)

Hire Second Class for Treasury IT Professionals Intern Program (C.2)

Conduct Routine Classes for Technology Leadership Management Development Program (F.1)

Coordinate Treasury Participation in GSA CIO University and DoD IRM College and Execute Appropriate Agreements (G.2.1 & G.2.2)

Fourth Quarter

Conduct Class #4: IT 101 for Non-IT Executives (B.1)

Conduct One TEI Session – Topic TBD (B.1)

Conduct Routine Classes for Technology Leadership Management Development Program (F.1)

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